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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,674	02/11/2002	Christina Lampe-Onnerud	3243.1001-001	4577
21005	7590	12/13/2004	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C.			RUTHKOSKY, MARK	
530 VIRGINIA ROAD			ART UNIT	
P.O. BOX 9133			PAPER NUMBER	
CONCORD, MA 01742-9133			1745	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/073,674	LAMPE-ONNERUD ET AL.	
	Examiner	Art Unit	
	Mark Ruthkosky	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) 13-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-6 and 8-10 is/are rejected.
- 7) ☐ Claim(s) 7 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/4/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 11/4/2004 has been placed in the application file, and the information referred to therein has been considered as to the merits.

Response to Amendment

Claims 1-10 and 12 are pending in the application prosecution. The applicant has canceled claim 11. Claims 13-23 are withdrawn.

Claim Rejections - 35 USC § 112

The rejection of claims 1-12 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by the applicant's amendment. The claims included the language "less than about" and "greater than about." Section 2173.05 of the MPEP shows that the phrase "at least about" has been held indefinite. The applicant has removed the word about from the claims. Further, claim 11 has been canceled.

Claim Objections

The objection of claim 11 as being of improper dependent form has been overcome by canceling the claim.

Examiner's Comment

With regard to claim 12, the claimed formula includes the variable B, which may be an element selected from a group including Mn, B, Al, and Ga. Using B as the variable in the claim is misleading as it suggests the element is boron when it may also be Mn, Al, and Ga. It would be prudent to change the variable to a letter that is not used to indicate an element of the periodic table.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

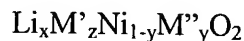
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitano (JP 2000-149,950.)

The instant claims are to a composition comprising a core with the formula,



as claimed, and a coating on the core having a greater ratio of Co:Ni than the core.

Kitano (JP 2000-149,950) teaches a composition comprising a core with the formula, $\text{Li}_x\text{M}'_z\text{Ni}_{1-y}\text{M}''_y\text{O}_2$ ($0 \leq y \leq 0.25$, $0 \leq z \leq 0.15$) with M being a metal excluding Ni and Co. The term about is noted for the various values of each variable in the dependent claims. Examples of metals used for the variable M include Mg and Mn (paragraph 10.) The material has a magnesium-cobalt-lithium coating on the core inherently having a greater ratio of Co:Ni than the core as no Ni is in the coating. Thus, the claims are anticipated.

The rejection of claims 1-5 and 9-11 under 35 U.S.C. 102(b) as being anticipated by Toatsu (JP 09-50810) has been overcome by the applicant's amendment. Toatsu (JP 09-50810) teaches a composition comprising a core with the formula, $\text{Li}_x\text{Ni}_y\text{N}_z\text{O}_2$ ($0.8 < x < 1.2$, $0.8 < y+z < 1.2$ and $0 \leq z < 0.2$) with N being a metal including Co. The reference does not teach a formula including two separate and additional elements in the claims molar ratios.

The rejection of claims 1-5, 7-10 and 12 under 35 U.S.C. 102(b) as being anticipated by Koji (JP 11-067,209) has been overcome by the applicant's amendment. Koji (JP 11-067,209) teaches a composition comprising a core with the formula, $\text{Li}_{x=0-1.2}\text{Ni}_{(1-b+c+d)}\text{Co}_{b=0.1-0.5}\text{Mn}_{c=0.05-0.4}\text{M}_{d=0-0.4}\text{O}_2$ with M being a metal including B. The compound $\text{Li}_x\text{Mn}_y\text{Co}_z\text{Ni}_{1-(y+z)}\text{O}_2$ is noted on page 2, in paragraph 6. The material has a lithium-cobalt-oxide coating on the core. Nickel is not included. The coating will therefore have a greater ratio of Co:Ni. The reference does not teach a formula including Na, K, Ca, Mg, or Sr.

Response to Arguments

Applicant's arguments filed 9/30/2004 have been fully considered but they are not persuasive. With regard to the rejection under 35 U.S.C. 102(b) as being anticipated by Kitano (JP 2000-149,950), the arguments state that M'' is a modifier of the Ni atom. This argument is moot as the molar ratio of each element in the reference falls into the claimed molar ratio and thus anticipates the claim. For example, the claimed compound includes the general formula $\text{LiNi}_{1-y-z}\text{Co}_y\text{M}_z\text{O}_2$, which may be $\text{LiNi}_{0.6}\text{Co}_{0.25}\text{M}_{0.15}\text{O}_2$. This formula anticipates the claim.

Allowable Subject Matter

Claims 7 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 7 includes a composition $\text{Li}_x\text{M}'_z\text{Ni}_{1-y}\text{M}''_y\text{O}_2$ wherein M'' further includes boron. Claim 12 includes the composition $\text{Li}_x\text{Mg}_z\text{Ni}_{1-y}\text{Co}_y\text{B}_v\text{O}_2$. The prior art does not teach core compositions of these formulae with a coating on the core having a greater ratio of Co:Ni than the core. JP 11-040,153 teaches a composition comprising a core with the formula, $\text{Li}_x\text{B}_v\text{Ni}_x\text{Co}_y\text{CaO}_2$ with the molar ratios in the claimed ranges. The material does not include coating on the core having a greater ratio of Co:Ni. JP 10-208,743 teaches a positive electrode active material of the formula $\text{Li}_w\text{Mg}_v\text{Ni}_x\text{Co}_y\text{B}_z\text{O}_2$. The material does not include coating on the core having a greater ratio of Co:Ni. The prior art references do not teach core compositions of these formulae with a coating on the core having a greater ratio of Co:Ni than the core.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky

Primary Patent Examiner

Art Unit 1745

Mark Ruthkosky
12/2/04